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(19) **United States**(12) **Patent Application Publication**  
Baillargeon et al.(10) **Pub. No.: US 2002/0163942 A1**(43) **Pub. Date: Nov. 7, 2002**(54) **MULTIPLE REFLECTIVITY BAND  
REFLECTOR FOR LASER WAVELENGTH  
MONITORING****Publication Classification**(51) **Int. Cl.<sup>7</sup>** ..... H01S 3/10; H01S 3/13(52) **U.S. Cl.** ..... 372/20(75) **Inventors:** James N. Baillargeon, Springfield, NJ  
(US); Wen-Yen Hwang, Sugar Land,  
TX (US); Klaus Alexander Anselm,  
Sugar Land, TX (US); Chih-Hsiang  
Lin, Sugar Land, TX (US)(57) **ABSTRACT****Correspondence Address:****APPLIED OPTOELECTRONICS, INC.**  
13111 JESS PIRTLE BLVD.  
SUGAR LAND, TX 77478 (US)(73) **Assignee:** **APPLIED OPTOELECTRONICS,  
INC.**(21) **Appl. No.:** 10/029,008(22) **Filed:** Dec. 20, 2001**Related U.S. Application Data**(60) Provisional application No. 60/272,707, filed on Mar.  
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A monitored laser system includes a laser with a first mirror and an exit mirror. The laser also has a laser cavity defined at least in part by the first mirror and the exit mirror. Within the laser cavity is an active region that contains material that is capable of stimulated emission at one or more wavelengths such that laser light is emitted from the laser. A power source is coupled to the active region. A multiple reflectivity band reflector (MRBR) is coupled to at least a portion of the emitted laser light. The MRBR has at least first and second wavelength bands with reflectivity above a particular reflectivity separated by at least a third wavelength band having reflectivity below the particular reflectivity. A first photodiode is coupled to at least a portion of the filtered laser light and produces an output based on the amount and wavelength of light received. A means for adjusting the emitted wavelength of the laser toward a particular wavelength in one of the at least first, second, and third wavelength bands based at least in part on the output of the first photodiode.

